United States Assay Office,

New York, Nov 28 1876

Prof. J. C. Booth

Dr Sir

A letter from the Director of the Mint, and a copy of your letter of the 22d inst, has just been handed to me. I regret that you have so much trouble with our fine gold, and I am determined to do all in my power to remove the cause of complaint, which has heretofore escaped my notice, as we do not make standard bars. The difficulty doubtless arises from the large amount of metals which leave oxides insoluble in Nitric acid, such as Tin, Antimony, Bismuth &c, and I am satisfied that the best way to remove these metals is by cupellation, but

unfortunately we have the means of doing this only on a very small scale, viz; a deposit furnace so altered as to answer for cupelling 12 lbs of gold at once.

I think it advisable to erect in this office a large cupelling furnace, of sufficient capacity to work off all the impure gold, with lead, before granulating with silver, but as I have had no experience in erecting such a furnace, my object in now writing to you is to ask if you have such a one in the Mint, or if you can give me a working plan for erecting one in this office. If you have one in use, please state the kind of fuel used, the size of test, and whether you use bone ashes and absorb the litharge, or wood ashes and a blast of air. any information you can give me on this subject, will be thankfully rec'd and facilitate the object I have in view.

Yours very truly

Edward M. Kent.

P.S. If you have such a furnace in use, it may be best for me to see it in operation.

28. Nov. 1860

E. N. Kent
N. Y.

On bottle Gold & Cupel